

APPENDIX I:

CLAIM AMENDMENTS:

Amend Claims 23 and 24 as indicated in the following listing of the claims:

1. - 13. (canceled)

14. (previously presented) A composition comprising

(a) from 1 to 99% by weight of a solid (I) which is selected from a group consisting of compounds Ia, Ib, Ic, mixtures of compounds Ia and Ib, and mixtures of compounds Ia and Ic, wherein the compounds have a primary particle size of from 5 nm to 100 μ m, and

which solid (I) is insoluble in a liquid electrolyte suited for use in an electrochemical cell,

(b) from 1 to 99% by weight of a polymeric material (II),
wherein

the compound Ia is selected from the group consisting of inorganic oxides, mixed oxides, silicates, sulfates, carbonates, phosphates, nitrides, amides, imides and carbides of the elements of main groups I, II, III and IV and transition group IV of the Periodic Table, polymers selected from the group consisting of polyethylene, polypropylene, polystyrene, polytetrafluoroethylene, polyvinylidene fluoride, polyamides and polyimides; dispersions comprising said polymers; and a mixture of two or more thereof;

the compound Ib is selected from the group consisting of

LiCoO_2 , LiNiO_2 , $\text{LiNi}_x\text{Co}_y\text{O}_2$ and $\text{LiNi}_x\text{Co}_y\text{Al}_z\text{O}_2$, where $0 < x, y, z \leq 1$,
 Li_xMnO_2 ($0 < x \leq 1$), $\text{Li}_x\text{Mn}_2\text{O}_4$ ($0 < x \leq 2$), Li_xMoO_2 ($0 < x \leq 2$), Li_xMnO_3 ($0 < x \leq 1$), Li_xMnO_2 ($0 < x \leq 2$), $\text{Li}_x\text{Mn}_2\text{O}_4$ ($0 < x \leq 2$), $\text{Li}_x\text{V}_2\text{O}_4$ ($0 < x \leq 2.5$), $\text{Li}_x\text{V}_2\text{O}_3$ ($0 < x \leq 3.5$), Li_xVO_2 ($0 < x \leq 1$), Li_xWO_2 ($0 < x \leq 1$), Li_xWO_3 ($0 < x \leq 1$), Li_xTiO_2 ($0 < x \leq 1$), $\text{Li}_x\text{Ti}_2\text{O}_4$ ($0 < x \leq 2$), Li_xRuO_2 ($0 < x \leq 1$), $\text{Li}_x\text{Fe}_2\text{O}_3$ ($0 < x \leq 2$), $\text{Li}_x\text{Fe}_3\text{O}_4$ ($0 < x \leq 2$), $\text{Li}_x\text{Cr}_2\text{O}_3$ ($0 < x \leq 3$), $\text{Li}_x\text{Cr}_3\text{O}_4$ ($0 < x \leq 3.8$), $\text{Li}_x\text{V}_3\text{S}_5$ ($0 < x \leq 1.8$), $\text{Li}_x\text{Ta}_2\text{S}_2$ ($0 < x \leq 1$), Li_xFeS ($0 < x \leq 1$), Li_xFeS_2 ($0 < x \leq 1$), Li_xNbS_2 ($0 < x \leq 2.4$), Li_xMoS_2 ($0 < x \leq 3$), Li_xTiS_2 ($0 < x \leq 2$), Li_xZrS_2 ($0 < x \leq 2$), Li_xNbSe_2 ($0 < x \leq 3$), Li_xVSe_2 ($0 < x \leq 1$), Li_xNiPS_2 ($0 < x \leq 1.5$), Li_xFePS_2 ($0 < x \leq 1.5$), $\text{LiNi}_x\text{B}_{1-x}\text{O}_2$ ($0 < x < 1$), $\text{LiNi}_x\text{Al}_{1-x}\text{O}_2$ ($0 < x < 1$), $\text{LiNi}_x\text{Mg}_{1-x}\text{O}_2$ ($0 < x < 1$),

$\text{LiNi}_x\text{Co}_{1-x}\text{VO}_4$ ($1 \geq x \geq 0$), $\text{LiNi}_x\text{Co}_y\text{Mn}_z\text{O}_2$ ($x+y+z=1$), LiFeO_2 , LiCr-TiO_4 , $\text{Li}_a\text{M}_b\text{L}_c\text{O}_d$ ($1.15 \geq a > 0$; $1.3 \geq b+c \geq 0.8$; $2.5 \geq d \geq 1.7$; M = Ni, Co, Mn; L = Ti, Mn, Cu, Zn, alkaline earth metal), $\text{LiCu}_{x^{II}}\text{Cu}_{y^{III}}\text{Mn}_{(2-(x+y))}\text{O}_4$ ($2 > x+y \geq 0$), LiCrTiO_4 , $\text{LiGa}_x\text{Mn}_{2-x}\text{O}_4$ ($0.1 \geq x \geq 0$), poly(carbon sulfides), V_2O_5 ; and a mixture of two or more thereof,

the compound Ic is selected from the group consisting of lithium, a lithium-containing metal alloy, micronized carbon black, natural and synthetic graphite, synthetically graphitized carbon powder, a carbon fiber, titanium oxide, zinc oxide, tin oxide, molybdenum oxide, tungsten oxide, titanium carbonate, molybdenum carbonate, zinc carbonate, $\text{Li}_x\text{M}_y\text{SiO}_z$ ($1 > x \geq 0.1 > y \geq 0$, $z > 0$), Sn_2BPO_4 , conjugated polymers, lithium metal compounds; and a mixture of two or more thereof,

and wherein

where the solid (I) is the mixture of Ia and Ib, the composition further comprises from 0.1 to 20% by weight, based on the total weight of components I and II, of conductive carbon black; and where the solid (I) is the mixture of Ia and Ic, the composition further comprises up to 20% by weight, based on the total weight of the components I and II, of conductive carbon black;

and wherein said polymeric material (II) comprises

from 1 to 100% by weight of a polymer or copolymer (IIa) which has, as part of the polymer chain, at the end(s) of said chain and/or laterally on said chain, reactive groups (RG) which are capable of crosslinking reactions under the action of heat and/or UV radiation, and

from 0 to 99% by weight of at least one polymer or copolymer (IIb) which is free of reactive groups (RG);

and wherein the polymer (IIa) has, as reactive groups (RG), at least one reactive group RGa which in the triplet excited state under the action of heat and/or UV radiation is capable of hydrogen abstraction, and at least one group RGb which is different from RGa and is coreactive with RGa,

with at least one group RGa and at least one group RGb being present on average over all polymer molecules,

wherein the polymer (IIa) is a polymer or copolymer of an acrylate or methacrylate and has reactive groups RGa which comprise

benzophenone units and reactive groups RG_b which comprise dihydronyclopentadiene units.

15. - 19. (canceled)
20. (previously presented) The composition as claimed in claim 14, wherein the polymer (IIb) is selected from the group consisting of
a polymer or copolymer of vinyl chloride, acrylonitrile, vinylidene fluoride;
a copolymer of vinyl chloride and vinylidene chloride, vinyl chloride and acrylonitrile, vinylidene fluoride and hexafluoropropylene, vinylidene fluoride and hexafluoropropylene;
a terpolymer of vinylidene fluoride and hexafluoropropylene together with a member of the group consisting of vinyl fluoride, tetrafluoroethylene and trifluoroethylene.
21. (previously presented) The composition as claimed in claim 14, wherein the polymer (IIb) is a copolymer of vinylidene fluoride and hexafluoropropylene.
22. (previously presented) A composite comprising at least one first layer and at least one second layer, wherein the first and the second layer are obtained by crosslinking a composition as defined in claim 14, and wherein the first layer comprises the compound Ib or the compound Ic, and the second layer comprises the compound Ia and is free of the compounds Ic and Ib.
23. (currently amended) A method of producing a crosslinked composition which comprises providing ~~crosslinking~~ the composition defined in claim 14 and crosslinking the composition thermally, or by irradiation with ionic or ionizing radiation, an electron beam, UV or visible light, by electrochemically induced polymerization, or by ionic polymerization.
24. (currently amended) A method of producing the composite defined in claim 22 which comprises
 - (I) producing the at least one first layer by crosslinking the composition comprising the compound Ib or the compound Ic thermally or by irradiation with ionic or ionizing radiation, an electron beam, UV or visible light, by electrochemically induced polymerization or by ionic polymerization,

(II) producing the at least one second layer by crosslinking the composition comprising the compound Ia and being free of the compounds Ib and Ic thermally or by irradiation with ionic or ionizing radiation, an electron beam, UV or visible light, by electrochemically induced polymerization or by ionic polymerization, and

(III) combining the at least one first layer and the at least one second layer by means of a conventional coating process.

25. (*previously presented*) A solid selected from the group consisting of an electrolyte, a separator, an electrode, a sensor, an electrochromic window, a display, a capacitor and an ion-conducting film, which solid comprises the crosslinked composition obtained by the method of claim 23.
26. (*previously presented*) A solid selected from the group consisting of an electrolyte, a separator, an electrode, a sensor, an electrochromic window, a display, a capacitor and an ion-conducting film, which solid comprises the composite defined in claim 22.
27. (*previously presented*) An electrochemical cell comprising the solid electrolyte, the separator or the electrode defined in claim 25.
28. (*previously presented*) An electrochemical cell comprising the solid electrolyte, the separator or the electrode defined in claim 26.
29. (*canceled*)